

III. REMARKS

1. Claims 1 and 4-7 are amended.
2. Claims 1-8 are patentable under 35 U.S.C. 103(a) over Lumelsky et al., U.S. Patent No. 6,377,996 ("Lumelsky") and Sen et al., U.S. Patent No. 6,765,909 ("Sen"). Claim 1 recites providing a unique identifier to the application, providing the unique identifier in addition to a port number to a protocol stack in the terminal device, determining an association between said identifier and a particular QoS policy in the protocol stack using a database stored in said terminal device, determining in the protocol stack within the terminal device QoS parameters contained in the QoS policy and communicating from said terminal device to the network the QoS parameters to be applied to the data stream from or to the application. The combination of Lumelsky and Sen fail to disclose or suggest these features.

Lumelsky discloses a system for offloading a streaming session and its streaming client from a primary server to a target server (Col. 5, L. 55-58). In Lumelsky, a secondary socket is used to phase in a stream being provided in the primary socket (Col. 7, L. 32-34). When both sockets are in use, a synchronizer unit (380) searches for and locates the current segmentation markers in the primary and secondary streams and feeds the marker segmentation information to a switch decision unit (365) (Col. 5, L. 36-40). When the switching decision unit (365) determines that a common marker is present in both streams, it concludes that both streams are overlapping. The switching decision unit (365) then determines whether this overlap is sufficient to enable a seamless switch from the primary socket to the secondary socket. To do so, enough data must be present in the buffers of the secondary streaming connection so as to allow its smoothing (Col. 7, L. 48-56). Lumelsky also discloses that a handoff request message (740) contains the unique identifier of the handoff request, the unique identifier of the stream, the current segmentation marker on the stream, the unique identifier of the client and the target segmentation marker (Col. 10, L. 35-40). In Lumelsky, a QoS

network such as internet (2), PS2 (700) would determine whether the stream is available at its server and whether it may allocate resources to the given client. The server PS2 (700) uses the unique identifiers contained in the handoff request message to retrieve information about the stream (Col. 10, L. 42-47).

Lumelsky does not disclose or suggest providing a unique identifier to the application as recited in claim 1. The Examiner suggests this feature is disclosed at column 6, lines 7-47 and at column 10, lines 33-47. Column 6, lines 7-47 of Lumelsky merely discloses how frames are decomposed into packets and sent from the server side packet to the client side socket where the frames are reassembled. Column 6, lines 7-47 also disclose the use of buffers to smooth out the data transmission. As described above, column 10, lines 33-47 merely disclose that a handoff request message (740) contains the unique identifier of the handoff request, the unique identifier of the stream, the current segmentation marker on the stream, the unique identifier of the client and the target segmentation marker (Col. 10, L. 35-40) and that the server PS2 (700) uses the unique identifiers contained in the handoff request message to retrieve information about the stream (Col. 10, L. 42-47). Nowhere is it disclosed in these cited passages nor anywhere else in Lumelsky that the unique identifier is provided to "the application".

The Examiner also argues that Lumelsky discloses "communicating from the terminal device to the network the QoS parameters to be applied to the data stream from or to the application" at column 6, lines 7-47 and at column 10, lines 33-47. Again, column 6, lines 7-47 of Lumelsky merely discloses how frames are decomposed into packets and sent from the server side packet to the client side socket where the frames are reassembled and the use of buffers to smooth out the data transmission. As described above, column 10, lines 33-47 merely disclose that a handoff request message (740) contains the unique identifier of the handoff request, the unique identifier of the stream, the current segmentation marker on the stream, the unique identifier of the client and the target segmentation marker (Col. 10, L. 35-40) and that the server PS2 (700) uses the unique identifiers contained in the handoff request message to retrieve information

about the stream (Col. 10, L. 42-47). Nowhere in these cited passages nor anywhere else in Lumelsky is "communicating from the terminal device to the network the QoS parameters to be applied to the data stream from or to the application" disclosed or suggested.

The Examiner acknowledges that Lumelsky does not disclose or suggest determining an association between said identifier and a particular QoS policy in the protocol stack using a database stored in the terminal device and determining in the protocol stack within the terminal device QoS parameters contained in the QoS policy. Further, there is simply no disclosure or suggestion in Lumelsky of providing the unique identifier in addition to a port number to a protocol stack in the terminal device as recited in claim 1.

Combining Lumelsky with Sen fails to remedy the above deficiencies. Sen discloses a classification application utilizing a table of connection numbers and associated TCP/IP applications for determining a wireless packet communication quality of service level by decoding a connection number field of the compressed packet header (Abstract, L. 1-5). In Sen multiple packet data flows having different QoS requirements may be supported under a single PPP connection (Col. 4, L. 31-33). An IP packet is sent over a serial line and is passed through a V-J header compressor. The compressor checks if the protocol is TCP and marks the packets as TYPE_IP if the packets are non-TCP or un-compressible and passes the packets to a PPP framer. If a matching connection is found, the incoming packet is compressed and a COMPRESSED_TCP is sent to the PPP framer. When the compressor receives the first packet of a new TCP session it generates an UNCOMPRESSED_TCP type packet with the TCP/IP header exactly the same as the original header except that the protocol ID field is replaced by a connection number (304) (Col. 5, L. 28-42). In Sen the QoS class is determined from the ID of the user and the type of packet as revealed by the source port number (Col. 6, L. 14-18; Col. 7, L. 28-38). The QoS parameters are stored in a user database which is indexed using the connection number (Col. 3, L. 34-40; Col. 6, L. 30-33). The QoS parameters in Sen are determined in a radio access network node (See Fig. 2).

Sen identifies the TCP/IP application using the source port number (Col. 6, L. 14-15). There is no disclosure or suggestion in Sen of a unique identifier in addition to the port number being provided. As described on page 5, line 23 through page 6, line 11 the port number alone does not uniquely identify a given application. Not all applications use well known port numbers and some applications may randomly use different port numbers. In addition, the port number may be hidden for security reasons in the terminal so that the port number is not available to the proxy node. Therefore, Sen does not disclose or suggest providing the unique identifier in addition to a port number to a protocol stack in the terminal device as recited in claim 1. Further, there is simply no disclosure in Sen of providing a unique identifier to the application as recited in claim 1.


In addition, in Sen the QoS class is determined for the downlink direction from the radio access network node to a target device and for the uplink direction from the radio access network to an IP network (See e.g. Col. 6, L. 46 – Col. 7, L. 51). Sen does not disclose how the QoS class or parameters for the air interface from the mobile communication device to the radio access network are determined. All that Sen discloses is that “if the signal is ‘from the air’, meaning transmitted to a BTS from a device not on the network, the signal is classified and passed through the appropriate LAC/MAC and sent onto the network. If the signal is ‘to the air’ meaning a signal received into the Base Station from the network, the signal is classified and passed through the LAC/MAC and sent to the target device” (Col. 6, L. 53-58). Sen does not disclose the determining of QoS parameters in a mobile communication device but rather discloses the determination being performed in a proxy node. Therefore, Sen does not disclose or suggest determining an association between the identifier and a particular QoS policy in the protocol stack using a database stored in the terminal device, determining in the protocol stack within the terminal device QoS parameters contained in the QoS policy and communicating from said terminal device to the network the QoS parameters to be applied to the data stream from or to the application as recited in claim 1.

Thus, because the combination of Lumelsky and Sen fails to disclose or suggest all the features of claim 1 as described above, claim 1 is patentable. Claims 4, 5 and 7 are patentable over the combination of Lumelsky and Sen for reasons similar to those described above with respect to claim 1. Claims 2, 3, 6 and 8 are patentable at least by reason of their respective dependency.

For all of the foregoing reasons, it is respectfully submitted that all of the claims now present in the application are clearly novel and patentable over the prior art of record, and are in proper form for allowance. Accordingly, favorable reconsideration and allowance is respectfully requested. Should any unresolved issues remain, the Examiner is invited to call Applicants' attorney at the telephone number indicated below.

The Commissioner is hereby authorized to charge \$1,020.00 for a three-month extension of time and payment for any fees associated with this communication or credit any over payment to Deposit Account No. 16-1350.

Respectfully submitted,



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